Unit 2 - Week 0

Assignment 0

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-02-24, 23:59 IST.

1) Decoded value of a binary number **101010** becomes equal to

1 point

(a) 47
(b) 54
(c) 56
(d) 42

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(d)

2) Tan - sigmoid function is mathematically expressed as follows:

1 point

$$y = \frac{e^{as} - e^{-as}}{e^{as} + e^{-as}}$$, where **a** is a positive quantity.

The range of y is obtained as

(a) 0.0 to +1.0
(b) -1.0 to +1.0
(c) -4.0 to +4.0
(d) -5.0 to +5.0

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b)

3) Euclidean distance between two points in 3-D space, namely C and D having the coordinates (1,2,3) and (4,5,6) becomes equal to

1 point

(a) 7.123 units
(b) 8.234 units
(c) 5.196 units
(d) 6.321 units

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(c)

4) Inverse multi-quadratic function is expressed as follows: $y = \frac{1}{\sqrt{x^2+\sigma^2}}$. Its partial derivative with respect to σ is determined as

1 point

(a) $-\sigma^3(x^2+\sigma^2)^{-3/2}$
(b) $\sigma^3(x^2+\sigma^2)^{-3/2}$
(c) $\sigma^2(x^2+\sigma^2)^{-3/2}$
(d) $-\sigma(x^2+\sigma^2)^{-3/2}$

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(d)

5) Which one of the following statements is TRUE?

1 point

(a) Probability theory works based on crisp set only
(b) Probability theory works based on fuzzy set only
(c) Probability theory works based on both crisp and fuzzy sets
(d) Probability theory works based on neither crisp set nor fuzzy set

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a)

6) Gaussian distribution is expressed as follows: $y = e^{-\frac{1}{2}\left(\frac{x-\mu}{\sigma}\right)^2}$, where $\boldsymbol{\mu}$ and $\boldsymbol{\sigma}$ represent the mean and standard deviation, respectively. The value of y varies in the range of

1 point

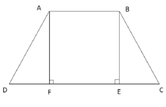
(a) (-5.0, +5.0)
(b) (-1.0, +1.0)
(c) (0.0, +1.0)
(d) (-2.0, +2.0)

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(c)

7) Following figure displays a trapezium ABCD.

1 point



Its area can be determined by using the expression

(a) $\frac{1}{5}(\overline{AB} + \overline{CD}) \times \overline{AF}$
(b) $\frac{1}{4}\left(\frac{1}{2}(\overline{AB} + \overline{CD})\right) \times \overline{AF}$
(c) $\frac{1}{3}(\overline{AB} + \overline{CD}) \times \overline{AF}$
(d) $\frac{1}{2}(\overline{AB} + \overline{CD}) \times \overline{AF}$

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(d)

8) Which one of the following statements is TRUE?

1 point

(a) Sensitivity of a controller is defined as the change in input
(b) Sensitivity of a controller is defined as the inverse of the change in input
(c) Sensitivity of a controller is defined as the ratio of change in output to that in input
(d) Sensitivity of a controller is defined as the ratio of change in input to that in output

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(c)

9) Which one of the following statements is TRUE?

1 point

(a) Human brain consists of a large number of neurons working in series
(b) Human brain consists of a large number of neurons working in parallel
(c) Human brain does not contain neuron
(d) The concept of neuron does not exist in Biology

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b)

10) Which one of the following expressions is that of a pure linear function? Here, C are the coefficients and X_1 and X_2 are the two variables.

1 point

(a) $C_0 + C_1X_1 + C_2X_2 + C_3X_1X_2$
(b) $C_0 + C_1X_1 + C_2X_2 + C_3X_1^2 + C_4X_2^2$
(c) $C_0 + C_1X_1 + C_2X_2$
(d) $C_0 + C_1X_1 + C_2X_2 + C_3X_1^2 + C_4X_2^2 + C_5X_1^3 + C_6X_2^3$

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(c)